

GAME MACHINE AND GAME SYSTEM

INCORPORATION BY REFERENCE

The present application claims priority under 35 U.S.C. §119 to Japanese Patent
5 Application No. 2003-104814 filed on April 9, 2003. The content of the application is
incorporated herein by reference in its entirety.

FIELD OF THE INVENTION

The present invention relates to a game machine or a game system that stores
10 numerical data having a monetary value, and outputs the stored numerical data outside
the game machine system.

BACKGROUND OF THE INVENTION

Conventionally, game machines such as slot machines or video-pokers were
15 equipped with credit functions. When a game machine is in a stand-by state and a player
deposits coins (or medals) and bills, the credit number displayed on the credit meter
increases from 0 to the amount deposited by the player. By this action the player can start
the game. When the player performs a BET operation, the credit number is decreased
20 according to the BET number. When the result of the player's game is a win, a number
indicating the winning payout is shown on the WIN meter. Then the credit number at the
start of the game and the number displayed in the WIN meter are added, and displayed on
the credit meter as the credit number. The player can spend all the credit for playing games
by pressing the BET button.

However, sometimes it happens that the player spends all the credit when he is too
25 enthusiastic with the games. Before realizing it, the player may spend all his credits,
because even if the player wins the games and receives payouts, all the payout is added to
the credit and the player cannot distinguish between credit from deposited coins and those
from winning the games. When the player spends all the credit and money they possess,
they may be discouraged and not return to play at the game center. Or in extreme cases,
30 excessive playing may bankrupt the players. These situations are not desirable for the
game center.

Many methods are proposed to control compulsive gambling but forceful methods
are not suitable for the game center. It is desirable to have methods that encourage

players to come back to the game center by altering the mentality of the players during the games.

SUMMARY OF THE INVENTION

5 The object of the present invention is to overcome these problems and to provide a game machine and a game system that prevent players from spending all credit and money by altering the mentality of the players.

A game machine according to the present invention is a game machine for entering numerical data having some monetary value, which serves as a trigger for starting a game.
10 The game machine includes a data input module for receiving the input of the numerical data, a main memory for storing the numerical data and for outputting the stored numerical data to at least the data input module, and a sub-memory for storing the numerical data and for outputting the stored numerical data only externally from a game machine system.

15 Thus, after storing the numerical data in the sub-memory, the numerical data stored in the sub-memory cannot be output inside the game machine system because the sub-memory is capable of outputting stored data only outside the game machine system. Consequently, the numerical data of usable and unusable types for a game are stored in a separate manner. Even if the player uses up all the numerical data stored in the main
20 memory, there are always some numerical data left in the sub-memory. As a result, the players can be prevented from spending all the credits and money all at once.

According to another aspect, a game machine of the present invention is a game machine for entering numerical data having some monetary value, which serves as a trigger for starting a game. The game machine includes a data input module for receiving the input of the numerical data, a main memory for storing the numerical data and for outputting the stored numerical data to at least the data input module, and a sub-memory for storing the numerical data and for outputting the stored numerical data externally from a game machine system and to the main memory.
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Because the sub-memory, after storing the numerical data, outputs the stored data only outside the game machine system and to the main memory, the numerical data of usable and unusable types for a game are stored in a clearly separate manner. Even if the player uses up all the numerical data stored in the main memory, there are always some numerical data left in the sub-memory. As a result the player can be prevented from

spending all the credit and money. If the player wants to re-start the game after spending all the numerical data stored in the main memory, the numerical data stored in the sub-memory must be output outside the game machine system or to the main memory. By forcing the player to perform these extra steps, the player's mind may be distracted from
5 the game. Consequently, this may allow the player to calm down and regain a cool head.

According to another aspect of the invention, the numerical data, which is output to the main memory from the sub-memory, can be set beforehand.

Because the numerical data output from the sub-memory to the main memory can be pre-set, the numerical data output from the sub-memory to the main memory is limited
10 to the pre-set value, if the player wants to re-start the game after spending all the numerical data stored in the main memory. Consequently even if the player re-starts the game and spends all the numerical data stored in the main memory, there are always some numerical data left in the sub-memory. Thus, the player can be prevented from spending all the credits and money the player possesses.
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According to another aspect, in a game machine of the present invention the main memory can output the stored numerical data to the sub-memory.

Because the main memory can output the stored data to the sub-memory, all or a part of the numerical data available for the player usable for the game can be stored in the sub-memory. Thus, the numerical data of usable and unusable types for a game are stored
20 in a separate manner

According to another aspect, in a game machine of the present invention, the numerical data, which is output from the main memory to the sub-memory, can be set beforehand.

Because the numerical data output from the main memory to the sub-memory can
25 be set beforehand, a pre-set value of the numerical data usable for the game is stored in the sub-memory. By this arrangement, the player uses the numerical data stored in the main memory to play the game and at the same time the pre-set value of the numerical data is stored in the sub-memory. Thus, even if the player spends all the numerical data stored in the main memory, there are always some numerical data left in the sub-memory. Thus,
30 the player can be prevented from spending all the credits and money he possesses.

According to another aspect, in a game machine of the present invention the main memory is capable of outputting the stored numerical data outside the game machine system.

By this arrangement of the game machine, the numerical data stored in the main memory can be output directly outside the game machine system without going through the sub-memory.

According to another aspect, a game machine according to the present invention
5 further includes a recording module for recording information onto a storage medium. The recorded information contains the numerical data stored in the memories in association with data indicating which memory the numerical data was stored in.

Because the numerical data stored in each memory unit and the recorded information annotated with the data as to the memory unit in which the numerical data
10 had been stored are recorded in the media and issued, it is possible to determine in which memory unit the data are stored. Thus the data can be handled differently according to the memory unit in which they are stored. For example, it can be arranged so that the numerical data stored in the main memory can be used by the player any time but those stored in the sub-memory can only be used if certain conditions are met (for example the
15 player must go to a changing booth). By this arrangement, the player must leave the game machine when he wants to use the numerical data stored in the sub-memory. By forcing the player to perform these extra steps, the player's mind can be distracted from the game.

According to another aspect, in a game machine of the present invention, the
20 recording module records in the media, time information in which a time at which the recorded information was recorded serves as a starting point.

Because the time information is recorded in the media by counting from the starting point where the recorded information was recorded in the media, the numerical data recorded in the media can be controlled according to the time.

25 According to another aspect, in a game machine of the present invention, the time information is defined as time to be elapsed from the starting point before the recorded information recorded in the medium is readable.

Because the time information is defined as the time elapsed from the starting point to the time when the recorded information recorded in the media can be read, for
30 example, the numerical data stored in the main memory may be configured to be used immediately by the player but the numerical data stored in the sub-memory may be restricted to be used before a pre-determined time elapses. By this arrangement it is required for the player to wait for the pre-determined time, and this waiting period may

distract the player's mind from the game.

According to another aspect, a game machine of the present invention further includes a data display module displaying the numerical data recorded in various memory units.

5 Because the numerical data stored in each memory unit are displayed, the player can recognize easily the values of the numerical data stored in each memory unit.

According to another aspect, in a game machine of the present invention when the numerical data having some monetary value is output as a prize as a result of playing a predetermined game, the numerical data is stored in the sub·memory.

10 Because the numerical data are stored in the sub·memory when they are output as a prize for a specific game, the player can store the numerical data obtained by winning the prize, which is not used in the game directly. For example, all the numerical data obtained in the bonus game can be stored in the sub·memory. By this arrangement, the player can be restricted to spending all the credits and money.

15 According to another aspect, in a game machine of the present invention when the numerical data having some monetary value is output as a prize as a result of playing a predetermined game, the numerical data is stored in the main memory.

Because the numerical data are stored in the main memory when they are output as a prize in a specific game, the player can store all the numerical data obtained by 20 winning the prize as those to be used for the game directly. For example, all the numerical data obtained in the bonus game can be stored in the main memory. By this arrangement the player can spend all the numerical data obtained by winning the game for the games.

According to another aspect, a game machine of the present invention further 25 includes an assigning module for separating and assigning the numerical data to the main memory and the sub·memory wherein the main memory and the sub·memory store the numerical data assigned to each memory unit when the numerical data having some monetary value is output as a prize as a result of playing a predetermined game.

Because the numerical data are assigned and stored in the main memory and 30 sub·memory, when the numerical data having some monetary value are output as a prize for a specific game, the player can divide the numerical data obtained by winning the game for the one that can be used for the games directly and for the other to stock. For example, if the numerical data obtained from a bonus game are divided and stored in the main memory and sub·memory, the player may be prevented from spending all the credits and money

because a pre-determined value of the numerical data are always stored in the sub-memory. On the other hand, the player can enjoy the games because he can spend all the numerical data stored in the main memory.

According to another aspect, in a game machine of the present invention the
5 assigning module contains a set-up module, by which the assigning ratio of the numerical data is set.

Because the dividing ratio of the numerical data can be set, the dividing ratio of the portion usable for the game in the main memory to the stock portion in the sub-memory can be freely chosen. For example, the ratio of the main memory to the sub-memory can be
10 changed freely to increase the stock portion or to increase the game portion.

According to another aspect, a game system of the present invention includes one of the game machines described above and a control unit which can communicate with these game machines. The game machine generates recorded information containing the numerical data stored in the memories in association with data indicating which memory
15 the numerical data was stored in, assigns a unique management code to the recorded information, and outputs the recorded information to the management device.

Because each game machine outputs data to the control unit, the numerical data stored in each of the memory and the recorded information produced by the game machine annotated with the data as to the memory where each of the numerical data was stored
20 after assigning the one unique control mark to the recorded information, the numerical data stored in each memory can be controlled as a block at the control unit. Also, the numerical data of usable and unusable types for the games are controlled in a different manner. Hence there are always some numerical data left in the sub-memory even if the player spends all the numerical data stored in the main memory. Consequently, the player
25 can be prevented from spending all the credits and money.

The above, and other objects, features and advantages of the present invention will become apparent from the following description read in conjunction with the accompanying drawings, in which like reference numerals designate the same elements.

30 BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is an external view of the game machine according to an embodiment of the present invention.

Fig. 2 is a block view of the electric composition of the game machine according to

an embodiment of the present invention.

Fig. 3 shows regions in RAM.

Fig. 4 is a flow chart of the operations of the game machine according to an embodiment of the present invention.

5 Fig. 5 is an example of the image display in the image display module.

Fig. 6 is another example of the image display in the image display module.

Fig. 7 is a simplified diagram of the game system according to an embodiment of the present invention.

10 DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The game machine according to an embodiment of the present invention contains multiple credit functions, which can be divided into main credit and sub-credit functions. The main credit has similar functions as the conventional credit and corresponds to the numerical data having some monetary value such as medals that the player uses for the games. The main credit can be used by the player to play the games or can be exchanged for medals. This main credit is established in the memory space in RAM and stored in the main memory as numerical data. The value of the numerical data stored in the main memory is displayed on the main credit meter.

On the other hand, the sub-credit is numerical data having some monetary value but the player cannot use them for games directly. By transferring a pre-determined amount of the main credit to the sub-credit, there is always some credit left even if the player spends all the credit in the main credit. This sub-credit is established in the memory space of RAM and stored in the sub-memory as the numerical data. The value of the numerical data stored in the sub-memory is displayed in the sub-credit meter.

25 In Fig. 1, a game machine 1 includes a case 2 and a front panel 3 attached to the front surface of the case 2 so that it can be opened and closed. A liquid crystal panel or a Cathode-Ray Tube (CRT) is disposed behind the front panel 3, and an image display module 7 displaying symbols in, for example, three columns, is provided. The embodiment of the present invention uses video reels. A program is executed to display three reels on the 30 image display module 7.

As shown in Fig. 6, the image display module 7 includes three reels 103 that can display symbols in a changing or static manner along the column direction (vertically in terms of the game machine). The reels can display the symbols in a changing or static

manner. The image display module 7 displays a multiple number of symbols in a changing manner in the direction of the column. Based upon the result of the internal selection, symbols in a changing display are stopped.

Also disposed on the front surface of the case 2 are a medal deposit opening 10 and 5 a medal return button 10a that returns a medal when, for example, a deposited medal is stuck. A start lever 11 is a lever used to start the rotating display (changing display) on the reel display module 7.

The game of the game machine 1 starts by having the player perform a BET 10 operation to identify a valid pay-line. Different pay-line settings are possible, such as the horizontal center line (L1), an upper/lower horizontal line (L2, L3), and a diagonal line (L4, L5) as shown in Fig. 6. The BET operation is performed by depositing a medal in the medal deposit opening 10 described later or by performing a BET operation with a medal being held using a stored medal deposit button 21. BET operations can also be performed through 15 a combination of these methods.

Further, not only the pay-lines may be pre-set at the start of a game as described above, but also the winning may be determined by the pre-determined arrangement of the symbols. For example, when three bonus symbols are displayed in any of the three regions 20 in the image display module 7, a bonus game is won. The degree of freedom in winning is higher with increased anticipation of the players when the winnings are determined based upon the pre-determined arrangement of symbols regardless of the pay-lines as described above, compared when the pay-lines are pre-set.

Once the player identifies a pay-line by a BET operation and operates the start lever 11, the reel display module 7 displays the symbols in a changing manner. After a pre-determined time, the reel display module 7 sequentially displays the symbols in a static 25 manner. For example, the stopping sequence can be from the left to the right facing the machine. Difference of the timing of the stop operations of the each symbol can be, for example, 0.5 second. When the symbols are stopped and a predetermined symbol combination is displayed on one of the pay-lines, a prize associated with the symbol combination is awarded.

A medal payout opening 15 and a medal holding tray 16 are disposed below the front panel 3. A game effects display 17 is disposed above the front panel 3 to provide game effects. The game effects display 17 can be, for example, an LCD (Liquid Crystal Display) or 30 can be formed from various types of lamps. In the example presented in the embodiment,

an LCD is used. A bonus game display 18 is also disposed above the front panel 3. The bonus game display 18 is formed from LEDs (Light Emitting Diodes) and provides displays for high-value bonuses awarded to the player, game effects, errors, and the like. Speakers 19 generate voice instructions; music, sound effects, and the like. If a bonus prize is won,
5 the game becomes more advantageous for the player, e.g., the win rate can increase more than that in the usual game.

Multiple lamps 20 disposed on the front panel 3 are turned on, turned off, or turned on and off, in order to indicate the number of deposited medals (or the number of credits that have been BET), the valid pay-line, or the winning of a prize. The stored medal deposit button 21 is pressed to use a pre-determined number of medals stored (credit) in a medal storage device (main credit, not shown in the figures), and the stored medal deposit button 22 is pressed to use the maximum number of medals. The held medal count display module 23 displays the total number of medals (total display) stored in the medal storage device (not shown in the figures). The prize count display module 24 displays the
10 number of the prize won or the remaining game number, when a bonus is won. A medal payout count display module 25 displays the number of medal paid out. The medal storage count display module 23, the prize count display module 24, and the medal payout count display module 25 can include, for example, LEDs. The account button 26 settles accounts with regard to the stored medals. A locking device 27 locks and unlocks the door depending
15 on the direction in which it is turned. A label 28 indicates the type of the game machine 1, the name of the manufacturer, or the like.
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Fig. 2 shows the electronic composition of the game machine according to an embodiment in the present invention. As shown in Fig. 2, the game machine 1 is formed, electronically, from a main substrate A and a sub-substrate B. The main substrate A is equipped with the CPU 30, the ROM 31, and the RAM 32 and performs control operations according to a program set up ahead of time. In addition to a control program for controlling the operations of the game machine 1, the ROM 31 stores prize group selection tables and the like used to determine the prize groups ahead of time (internal selection). The CPU 30, the ROM 31, and the RAM 32 form a dividing module.
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Also, the CPU 30 is connected to a clock generator circuit 33 generating a reference clock pulse and a random number generator 34 generating random numbers in a fixed manner. A control signal from the CPU 30 is sent by way of an output port 35 to a medal payout device 36 that performs medal payout and a display control circuit 37 that controls
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the image display module 7. The image display module 7 and the display control circuit 37 form a display module; and the CPU30, the ROM31, the RAM32, the image display module 7 and the display control circuit 37 form a clear display mechanism.

Also, the CPU 30 receives, by way of an input port 43, signals from a medal evaluation device 38, which determines whether a medal is valid or not, a payout medal counter 40, which counts the number of payout medals, and the start lever 41, which starts the rotation of the reel. The setting module includes the CPU 30, the ROM 32 and the start lever 41. Also the data input module consists of the CPU 30, the medal evaluation device 38, the payout medal counter 40, the start lever 41 and the input port 43.

Signals output from the CPU30 are controlled by a transmission timing control circuit 45 controlling signal transmission timing to the sub-substrate B and are sent to the sub-substrate B by way of a data transmission circuit 46.

At the sub-substrate B, the signal sent from the data transmission circuit 46 is received by the data input circuit 47. The signal received by the data input circuit 47 is processed by the CPU 48. The CPU 48 is connected to a clock generation circuit 49 generating a reference clock pulse, a ROM 50 in which various programs and image data are recorded, and a RAM 51. Data relating to images are sent from the CPU 48 to the liquid crystal display 53 by way of a display circuit 52, which performs image processing and the like. The liquid crystal display 53 displays text, static images, moving images, and the like. Also, data relating to audio is sent from the CPU 48 to an amp circuit 56 by way of a sound LSI 54, which performs audio processing and the like. The sound LSI 54 extracts necessary audio data from an audio ROM 55 and performs audio data processing. The audio data that has been amplified and the like by the amp circuit 56 is sent to the speakers 58 by way of an audio adjustment circuit 57, which performs audio adjustments.

Fig. 3 shows a simplified diagram of the memory space of the RAM 32. The RAM 32 includes a main memory 101 and sub-memory 102. The main memory 101 and the sub-memory 102 store the numerical data having some monetary value represented, for example, by medals. The main memory 101 stores the above numerical data as main credits and outputs the numerical data to the CPU 30 to carry out the game and payout the medals. These functions are similar to the conventional credit functions. The main memory 101 outputs all or a part of the stored numerical data to the sub-memory 102.

Because the main memory 101 can output the stored numerical data to the sub-memory 102, all or a part of the numerical data which the player can use for the games

can be stored in the sub-memory 102. In this way the numerical data usable for the game are separately stored from the numerical data unusable for the game.

The sub-memory 102 stores the numerical data described above which is output from the main memory 101 as a sub-credit. The value of the numerical data output from the main memory 101 to the sub-memory 102, i.e. the credit number, can be chosen freely or can be pre-set. If the credit number is pre-set, the game machine 1 may be set with a fixed value by the game center. As shown in Fig. 5, the value output from the main memory to the sub-memory in the next game being played can be chosen by the player by showing the menu on the image display module 7 and allowing the player to operate the start lever 11. The credit number to be output from the main credit to the sub-credit can be determined, e.g., by the percentage value chosen by the player.

The sub-memory 102 never outputs the numerical data for playing games but outputs only outside the game machine 1 system. The concept 'outside the game machine system' includes elements installed to the case 2 such as the medal payout opening 15 and the medal holding tray 16, and the host computer and the server which are connected by the network. Here, the sub-memory 102 outputs the stored numerical data only to the medal payout opening 15 to payout medals.

Next, the operations of a game machine according to the embodiment of the present invention will be described. Fig. 4 shows a flowchart illustrating the operations performed by the game machine. When the game machine 1 is not operated by the player, e.g., for 5 minutes, it returns to the starting stand-by state and displays an overview of the game with animation. When the player touches the start lever 11, the image display module 7 displays a menu (step S1).

The menu is displayed as shown in Fig. 5. The player can select in the menu displayed in the image display module 7 the percentage of the main credit to be transferred to the sub-credit. The percentage display 90 displays one number between 1 and 100. When the player moves the start lever 11 upwards (in the direction of the arrow 91a), the number on the percentage display 90 is increased. When the player moves the start lever 11 downwards (in the direction of the arrow 91b), and then the number on the percentage display is decreased. When the player moves the start lever 11 towards the right (in the direction of the arrow 91c), the number displayed on the percentage display 90 is registered. Here, we assume that the player registers to transfer, e.g., 25 percent of the main credit to sub-credit. The menu can be called even between individual games. For example, the

game display can be changed to the menu by holding down the start lever 11 toward the right (in the direction of the arrow 91c) for more than 3 seconds. The menu can be changed to the game display by performing 'the registration of the percentage' as described above by moving the start lever 11 to the right (in the direction of the arrow 91c).

5 Because the numerical data output from the main memory 101 to the sub-memory 102 can be set beforehand, out of the numerical data usable for the game, the pre-set numerical data is stored in the sub-memory 102. By this arrangement the player uses the numerical data stored in the main memory 101 for playing games and at the same time the pre-set value of the numerical data is stored in the sub-memory 102. Therefore, even if
10 the player spends all the numerical data stored in the main memory 101, there is always some numerical data left in the sub-memory 102. As a result, a situation can be avoided where the player spends all credits and money.

When the percentage of the credit that is transferred from the main credit to the sub-credit is registered, the image display module 7 displays the game display as shown in
15 Fig. 6. That is, the image display module 7 displays three video reels 103 and 5 paylines L1 - L5. The credit meter 106 that displays the number of the credit consists of the main credit meter 107 and the sub-credit meter 108. The medal meter 109 displays the number of medals that are deposited by the player.

Because the numerical data (main credit and the sub-credit) stored in each
20 memory are displayed, the player can easily recognize the value of the numerical data stored in each memory

The game of the game machine 1 starts by having the player perform a BET operation to identify a valid payline (step S2). The BET operation is performed by depositing a medal in the medal deposit opening 10 described above or by performing a
25 BET operation with a medal being held in the main credit 107 (main memory 101) using a stored medal deposit button 21. BET operations can also be performed through a combination of these methods. When the player performs the BET operation and operates the start lever 11, each reel 103 starts spinning.

When each reel 103 stops in sequential order after pre-determined times and the
30 winning combinations of symbols are aligned on the valid paylines, the player wins (WIN). The game machine 1 judges whether the WIN is attained or not (step S3) and if the WIN is not attained the game moved to the step S1. In the step S1 the game machine 1 is displaying the game display (shown in Fig. 6) because it is not in the stand-by state and the

next game can be started immediately. However, as described above the menu (shown in Fig. 5) can be called up by pressing down the start lever 11 towards the right (in the direction of the arrow 91c) for more than three seconds.

If the result of the game is WIN at the step S3, i. e., WIN is attained after setting
5 the percentage in Fig. 5, the game points pre-determined according to the mode of the payout are displayed on the WIN meter 105 (step S4). The game points obtained in that game (the number displayed on the WIN meter 105) are temporarily added to the main credit meter 107 and furthermore 25% of the value (credit) added to the main credit meter 107 is subtracted from the main credit meter 107 and added to the sub-credit meter 108
10 (step S5).

The credit added to the sub-credit meter 108 cannot be used for the games by the player. Thus if the player uses up the main credit and the main credit meter 107 displays 0, the player cannot use the sub-credit for the game directly but he has to payout the sub-credit outside the game machine 1 system to use the sub-credit.

Because the credit displayed on the sub-credit meter 108 can only be output outside the game machine system, once the numerical data (credit) is stored in the sub-memory 102, they cannot be output inside of the game machine system. Thus the numerical data of usable and unusable types for the games are stored in a clearly separate manner and even if the player spends all the credit stored in the main memory 101 (main credit), always some numerical data is left in the sub-memory 102 (sub-credit). It is known empirically that players lose interest in the game when they leave the game machine temporarily or receive the payout. The player can be prevented from spending all the credit and money at once by designing the sub-credit in such a way that it can output only outside the game machine system and by making the player go through the step of credit payout.
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In the explanation described above, if the result of the game is "WIN", the value of WIN is added to the main credit and 25% of the main credit is transferred to the sub-credit. It may also be possible to store all the numerical data in the sub-memory 102 when the numerical data, which corresponds to the monetary value (credit), are output as a payout as
30 a result of playing a specific game. For example, the game points that the player gets in a bonus game can be added to the sub-credit.

Because all the numerical data are stored in the sub-memory 102 when the numerical data are output as a payout as a result of the specific game, the player can

"stock" the numerical data obtained as prizes as numerical data that is not directly usable for the games. By these arrangements, the player may be restricted from spending all the credit and money.

On the other hand, all the numerical data may be stored in the main memory 101
5 when the numerical data are output as a payout as a result of playing a specific game (e. g. a bonus game).

When the numerical data are output as payout as the result of playing the specific game such as the bonus game, the player can spend all the numerical data (credit) obtained by winning the game directly for the games by storing the numerical data in the main
10 memory 101.

Furthermore, when the numerical data are output as payout as the result of playing the specific game such as a bonus game, the numerical data can be divided and output to the main memory 101 and the sub-memory 102. Then, the divided and assigned numerical data can be stored in the main memory 101 and the sub-memory 102.

15 By this arrangement the player can store separately the numerical data (credit) obtained by winning a bonus game or the like as those directly usable for the game and as those to be "stocked." As a result, some constant value of the numerical data is always stored in the sub-memory 102. Thus, the player can be prevented from spending all the credit and money while still enjoying the game because the player can spend all the
20 numerical data stored in the main memory 101 for the games without concern.

If the numerical data are divided between the main memory 101 and the sub-memory 102, the ratio of the division can be pre-set. For example, the ratio of the credit transferred to the sub-credit can be set in the menu shown in Fig. 5 when the bonus game is won.

25 A degree of freedom can be given in allocating the numerical data to the main memory 101 for the game and to the sub-memory 102 for the stock by pre-setting the ratio of division of the numerical data (credit). For example to increase the allocation to the stock or to increase the allocation to the game, the relative weight of the main memory 101 to the sub-memory 102 can be changed freely.

30 Furthermore, the numerical data (credit) stored in the sub-memory 102 can be output not only outside the game machine system but also to the main memory 101. Thus, when the player spends all the numerical data stored in the main memory (main credit) and then wants to start the game again, the numerical data stored in the sub-memory

(sub-credit) have to be output outside the game machine system or to the main memory. The player can be made to perform some operation to output to the main memory. By requiring the player to perform an extra operation, the player's mind may be detracted from the game. This allows the player to calm down and regain a cool head.

5 Still further, when the numerical data (credit) are output from the sub-memory 102 to the main memory 101, the value of the numerical data can be configured and preset to output from the sub-memory to the main memory. By this design, only the fixed value of the numerical data is output from the sub-memory 102 to the main memory 101 when the player wants to re-start the game after spending all the numerical data stored in the
10 main memory (main credit). Thus, even if the player spends all the numerical data stored in the main memory 101, there are always some numerical data left in the sub-memory 102. As a result, the player may be prevented from spending all the credit and money all at once.

Next, an example will be described in which multiple game machines according to an embodiment of the present invention are connected to a network and managed in a
15 centralized manner by a server. As shown in Fig. 7, the game machine 201 according to the embodiment of the present invention contains a recording module 202. Each game machine 201 is connected to each other through a communication network N and to a server 203. The server 203 can communicate with, for example, a bank server 205 which is installed in a bank 204. Further, the bank server 205 is connected to multiple terminals
20 206 in the bank 204 and can send and receive data.

The server 203 receives via the communication network N the result of the game in the game machine 201, the number of medals deposited, the value of WIN, the numerical values of the main credit and the sub-credit.

When the player finishes the game and presses the accounts button 26 for payout,
25 the image display module 7 displays a menu for selecting the payout method. The player can select the payout by using medals or tickets. If the player selects the payout by using the medals, the main and sub-credits are paid out in medals. When players see the payout in medals, they may stop playing immediately and to go home. With more medals, the players' feeling to stop may be reinforced. By this arrangement, the player may be
30 encouraged to stop playing and spending all the credit and money.

On the other hand, when the player selects a ticket payout, the recording module 202 issues a ticket (media), which has recorded on the numerical data (credit) stored in the main memory 101 and the sub-memory 102, and the recorded information concerning the

location where these numerical data are stored.

In this operation, a recording module 202 can record on the medium time information. A starting point is the time at which the recorded information was recorded on the medium (ticket, card, or the like). By this arrangement, the numerical data recorded 5 in the media can be controlled according to the time. The time information can be defined as the time elapsed from the starting point to the time when the recorded information recorded in the media can be read. Thus, the player may use the numerical data stored (credit) in the main memory 101 immediately but cannot use the numerical data (credit) stored in the sub-memory 102 before a pre-determined time has elapsed. By this 10 arrangement, the player has to wait the pre-determined time before the numerical data (credit) stored in the sub-memory 102 can be used. In this way, the player's mind may be detracted from the game because of the wait time.

Further, the numerical data (credits) stored in the main memory and the sub-memory may be recorded directly on the ticket, and the recorded information may be 15 annotated with the data as to the memory unit in which the numerical data had been stored. Alternatively, only the identification code for the ticket may be recorded while all the data are controlled by the server 203. Not only the tickets but also the magnetic cards (such as credit cards and bank issued cash cards) can be used as the media. In outputting 20 the data to the tickets or the like, the server 203 controls the main credit, sub-credit and the identification information concerning the player. Therefore, even if the player wants to use the ticket provided to him, for example, in a neighboring game machine 201, he cannot use it. That is, the sub-credit in the ticket can be used only after the time controlled by the server 203 has past. By this arrangement the player is forced to wait some time to have a chance to cool down.

25 As described above, the recording module 202 records on the media the numerical data stored in each memory in association with data indicating which memory the data is stored in, and issues the media to the player. Thus, the memory in which the data was stored can be identified. By this arrangement, one can treat the data differently according 30 to the memory in which they have been stored. For example, the numerical data (credit) stored in the main memory 101 can be configured to be used by the player immediately, while the numerical data (credit) stored in the sub-memory 102 can be configured only to be used if pre-determined conditions are met (e.g., walk to the change booth or wait for a pre-determined time). Thus, when the player uses the numerical data (credit) stored in

the sub-memory 102, the player must leave the game machine. In this way, the player's mind may be distracted from the game by forcing the player to perform these extra steps.

Further, the numerical data stored in the main memory 101 (main credit) can be output outside the game machine system. For example, each game machine 201 can 5 output the numerical data that are the main credit to the server 203. By this arrangement, one can output and control the numerical data stored in the main memory 101 to outside the game machine system without going through the sub-memory 102.

Also, as shown in Fig. 7, the server 203 can be arranged so that the data can be exchanged with the bank 204. That is, it can be arranged so that when using a card with 10 the information identifying the player in each game machine 201, the data stored in the sub-memory 102 can be transmitted to the bank server 205 via the server 203 by the player pressing the accounts button 26 and deposited to the bank account of the player. Therefore, the player can use the numerical data stored in the sub-memory 102 (sub-credit) only after 15 withdrawing from the bank account. As a result, even if the player spends all the numerical data stored in the main memory (main credit), there is always some money left for the sub-credit in the bank account. Thus, the player can be prevented from spending all the credit and money.

Further, the sub-memory 102 can store multiple kinds of sub-credit. For example, there can be a first sub-credit for storing the data from the main credit 101 in regular 20 games and a second sub-credit for storing the credit obtained in only bonus games. Also, the present invention can be applied not only to game machines in which the image display 7 is a video system but also to regular slot machines with mechanical reels. For example, the main credit and sub-credit can be displayed with a 7 segmented display and the like as a credit meter. Also, a single display can be used with a switch for the main credit and 25 sub-credit.

Still further, the sub-credit can be displayed only when it is needed. For example, when the player wants to know the sub-credit, it can be displayed by operating, e.g., the start lever 11.

Further, the portion to be added to the main credit and the sub-credit can be 30 determined according to the payout of the WIN. For example, if the payout of the WIN is less than 5 medals, all medals can be stored in the main credit without storing in the sub-credit. Such an arrangement is more appropriate when the player wants to use all the credit for the games without stocking because of the small number of the WINs. On the

other hand if the payout of the WIN is less than 5 medals, all the medals can be stored in the sub-credit. This arrangement is appropriate if the player wants to stock all the credit when the WIN is few.

The characteristic actions described above in the game machine in the present invention are performed by running a computer to execute a control program. The control program, when loaded into the computer, performs the operations described below in the game machine, in which a game starts by inputting the numerical data having some monetary value. The control program includes a group of commands which make the computer perform a series of operations including an operation for registering numerical data, an operation for making the main memory store the numerical data and output the numerical data to at least a data input module, and an operation to store the numerical data in the sub-memory and to output the stored numerical data only outside the game machine system.

Therefore, when the sub-memory stores the numerical data, it can output the stored numerical data only outside the game machine system. Thus, the numerical data, once stored in the sub-memory, cannot be output inside of the game machine system. By this arrangement the numerical data usable for the game and unusable for the game are stored in a well separated manner and even if the player uses up all the numerical data stored in the main memory, there are always some numerical data left in the sub-memory.

As a result, the player can be prevented from spending all the credit and money.

Also, the control program, when loaded to the computer, performs the operations described below in the game machine, in which a game starts by inputting the numerical data having some monetary value. The control program includes a group of commands which make the computer perform a series of operations including an operation for registering the numerical data, an operation for the main memory to store the numerical data and to output the numerical data to at least the data input module, and an operation to store the numerical data in the sub-memory and to output the stored numerical data outside the game machine system and to the main memory.

Because the sub-memory, after the numerical data is stored in it, can output the stored numerical data outside the game machine system and to the main memory, the numerical data of usable and unusable types for the game are stored in a separate manner. Even if the player uses up all the numerical data stored in the main memory, there are always some numerical data left in the sub-memory. As a result, the player may be

prevented from spending all the credit and money. Also, if the player wants to re-start the game, the numerical data stored in the sub-memory must be output outside the game machine system or to the main memory. In this way, the player's mind may be distracted from the game by forcing the player to perform these extra steps.

5 The program explained as above can be obtained in a recording medium such as CD-ROM or DVD. Also these programs can be obtained by receiving the signal from a transmitting computer through a transmission medium such as a public telephone line, a dedicated telephone line, a cable TV line, a wireless transmission line, or the like. This signal is a computer data signal that is carried by a pre-determined carrier wave containing
10 the program. When transmitted, it is not necessary for all the data of the program to be present on the transmitting medium at one time. Also, the method for transmitting the program from the computer includes cases where the data for the program is transmitted continuously and cases where data for the program is transmitted discontinuously.

15 As explained above, the game machine in the present invention, in which a game starts by inputting the numerical data having some monetary value, includes a data input module which registers the numerical data, a main memory which stores the numerical data and possibly outputs the stored numerical data at least to the data input module, and a sub-memory which stores the numerical data and possibly outputs the numerical data to
20 the outside the game machine system as well as to the main memory.

Therefore, when the numerical data is stored in the sub-memory, the stored numerical data can only be output to outside the game machine system. The numerical data, once stored in the sub-memory, cannot be output inside the game machine system. By this arrangement, the numerical data of usable and unusable types for the game are
25 stored in a separate manner. Even if the player uses up all the numerical data stored in the main memory, there are always some numerical data left in the sub-memory. As a result, the player is prevented from spending all the credit and money.

The preferred embodiments of the invention with reference to the accompanying drawings have been described, but it is to be understood that the invention is not limited to
30 those embodiments, and that various changes and modifications may be effected therein by one skilled in the art without departing from the scope or spirit of the invention as claimed in the appended claims.